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FUEL CELL CONNECTION -- August 2001 Issue
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News on U.S. Government Fuel Cell Programs
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1. Argonne National Lab Teams with H2fuel on Hydrogen Generators
Argonne National Laboratory and H2fuel, LLC, announced a joint research project to develop a compact, low-cost hydrogen generator incorporating technologies developed at Argonne's Chemical Technology Division. The device would convert fuels like gasoline, natural gas, propane and methanol into hydrogen gas for use in fuel cells.
http://www.anl.gov/OPA/news01/news010720.htm

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2. ORNL Develops Membrane for Separating Hydrogen from Coal-Derived Gas
Oak Ridge National Laboratory (ORNL) researchers who have been working with inorganic membranes have developed a process to manufacture a super-efficient, defect-free separation system that can effectively separate and isolate hydrogen from other gases in coal-derived synthesis gas. Additional test will be made at DOE's National Energy Technology Laboratory as well as ORNL to determine the technology's stability under simulated operating conditions.
http://www.fossil.energy.gov/techline/tl_membrane_ornl.shtml

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3. Video Compares Hydrogen and Gasoline Vehicle Fires
DOE's Hydrogen Program has posted to its website stills from a video comparing what happens when hydrogen leaks from a storage tank in a vehicle and is ignited with what happens when gasoline leaks from a vehicle and is ignited. The companion research paper by Dr. Mike Swain of the University of Miami provides the results of the comparison.
http://www.eren.doe.gov/hydrogen

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4. Researchers Generate Hydrogen Using Spinach Plants
ORNL and the University of Tennessee have developed a method of hydrogen generation using photosynthesis of spinach plants. Researchers extracted intact photosynthetic complexes from the spinach plants and coated one side of each isolated complex with platinum atoms. In the presence of an added electron donor, visible light was able to be used to produce hydrogen.
http://research.utk.edu/ora/rag/goodnews/

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5. Naval Warfare Center BAA Seeks Proposals on Fuel Cells for Underwater Vehicles
The National Research Council (NRC) has released its assessment of the priorities and goals of the Partnership for a New Generation of Vehicles. The assessment notes that although fuel cell vehicle research fell short of some goals, the research should continue on an extended timeline. The report also recommends refocusing the program goal of the "80 mpg family sedan" to reflect the growing demand for SUVs, vans and other light-duty vehicles.
http://www.nap.edu/books/030907603X/html

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RFP/Solicitation News

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6. ARB to Fund Pilot Demonstrations of Air Pollution Control Technologies
Approximately one million dollars are available for qualified demonstration projects involving innovative air pollution control technologies through California Air Resource Board's Innovative Clean Air Technologies (ICAT) grant program. ICAT funding is limited to pilot projects (preferably located in the field), prototype creation and deployment, and field demonstrations of market-ready systems. Solicitations for the program are being accepted through October 10, 2001. A public workshop will be held in Sacramento on September 5, 2001, to answer questions that potential ICAT grant applicants might have.
http://www.arb.ca.gov/research/icat/solicit.htm.

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7. Navy BAA Seeks Proposals for Power Conversion and Energy Storage
The Office of Naval Research's Long-Range Scientific and Technology Program is interested in receiving proposals that offer potential for advancement and improvement of Navy and Marine Corps operations. The Ship Hull, Mechanical, & Electrical Systems Science and Technology Division's goal is to demonstrate the potential of an Electrically Reconfigurable Ship, and seeks proposals in the areas of Power Conversion Systems and Energy Storage. This Broad Agency Announcement is open until August 22, 2002.
http://www.eps.gov/spg/USN/ONR/ONR/02-001/listing.html

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8. Micro-Electronics Proposals Needed for DARPA BAA
A new Broad Agency Announcement (BAA) for the Defense Advanced Research Projects Agency's Microsystems Technology Office seeks proposals for R&D in the areas of microelectronics and micro-electromechanical systems (MEMS). Proposals are due by October 2, 2002.
http://enterprise.spawar.navy.mil/spawarpublicsite/

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Contract Awards
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9. SECA Awardees Named for 10-Year, $500 Million Fuel Cell Effort
DOE's Solid-State Energy Conversion Alliance (SECA) has awarded four industry teams with contracts for a 10-year, $500 million effort to produce low-cost solid oxide fuel cells. The four teams are: Honeywell, Inc. (Torrance, CA); Siemens Westinghouse (Pittsburgh, PA); the team of Delphi Automotive Systems (Flint, MI) and Battelle (Columbus, OH); and the team of Cummins Power Generation (Minneapolis, MN) and McDermott Technology Inc. (Alliance, OH).
http://www.fossil.energy.gov/techline/tl_seca_sel1.shtml

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10. Army Research Lab Award $49 Million to Consortium for Fuel Cell Research
A Power and Energy Alliance Consortium formed by Motorola Labs, Honeywell International, Engines and Systems, SAIC, Massachusetts Institute of Technology and others has been awarded an eight-year, $49 million cooperative agreement by the U.S. Army Research Laboratory for research and development of miniature fuel cells.
http://www.corporate-ir.net/ireye/ir_site.zhtml?ticker=mot&script=410&layout=-6&item_id=200575

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11. ATP Awards Funding to Two Fuel Cell Projects
Mechanical Technology Inc. and Blasch Precision Ceramics have received awards for fuel cell projects from the Advanced Technology Program (ATP) of the National Institute of Science and Technology (NIST). MTI will receive $4.66 million for development of an Integrated Hybrid DMFC/EC Capacitor Powerpack, and Blasch will receive $1.73 million for its project, Self-Propagating High Temperature Synthesis of SOFC Cathode Material.
http://www.atp.nist.gov/awards/2001list.htm

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12. EPA Gives Grant to HARC for Fuel Cell Promotion
Houston Advanced Research Center (HARC) received a $10,000 grant from the U.S. Environmental Protection Agency to promote the use of fuel cells in Houston. HARC's goal is to develop a trading program for fuel cell emissions that will fit into a larger cap and trade program proposed by the Texas Natural Resource Conservation Commission.

http://www.usnewswire.com/topnews/Current_Releases/0815-124.html

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13. QUANTUM Technologies to Supply Hydrogen & Oxygen Tanks for NASA's Helios Project
QUANTUM Technologies has been awarded a major contract by NASA and AeroVironment for the design, fabrication, testing and supply of large advanced hydrogen and oxygen tanks for the next generation Helios fuel cell prototype aircraft. The Helios is a remotely piloted flying wing prototype for NASA's Environmental Research Aircraft and Sensor Technology project.
http://biz.yahoo.com/prnews/010821/latu062.html

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Federal Legislation

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14. House of Representatives Passes Securing America's Future Energy (SAFE) Act
The "Securing America's Future Energy Act" was approved by the U.S. House of Representatives. Among the fuel cell and hydrogen related provisions are tax credits for fuel cell vehicles and fuel cell stationary power plants, grants for pilot projects, the Hydrogen Future Act, and funding for a fuel cell bus demonstration program.
http://thomas.loc.gov/cgi-bin/bdquery/z?d107:h.r.00004:

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Industry Headlines

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15. GM Unveils Gasoline FC Pickup Truck, Enters Stationary Market With New FC Stack
General Motors has unveiled a gasoline fuel processor for fuel cell vehicles, as well as a new fuel cell stack it has developed for the stationary power market. The Gen III processor was packaged in a Chevrolet S-10 pickup truck fitted with a fuel cell for propulsion. Driving demonstrations will be scheduled early next year. The stationary fuel cell stack has a 25 percent greater power density than the stack used recently in GM's HydroGen1 fuel cell vehicle.
http://www.gm.com/cgi-bin/pr_display.pl?2400
http://www.gm.com/cgi-bin/pr_display.pl?2401

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16. Toyota Introduces Fuel Cell Hybrid Vehicle for U.S. Road Testing
Toyota has demonstrated its new fuel cell hybrid vehicle, the FCHV-4, based on the new Highlander SUV. The vehicle, which Toyota says will be launched on a limited basis in 2003, will be demonstrated through the automaker's participation in the California Fuel Cell Partnership. Toyota says the vehicle, with a cruising range of more than 155 miles, has "three times the vehicle efficiency of an ordinary gasoline-powered car."
http://pressroom.toyota.com/presstxt/showlive?20010822

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17. DaimlerChrysler Testing Fuel Cell Van
DaimlerChrysler has teamed up with the Hamburg delivery company Hermes Versand Service to run a two-year field test on a fuel cell van based on the Mercedes-Benz Sprinter. The van will initially be tested in Stuttgart before transferring to Hamburg. The fuel cell Sprinter runs on gaseous hydrogen.
http://www.mercedes-benz.com/e/ecars/transporter/sprinter/alternative/bz_weltpremiere.htm

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18. Ford Introduces Hydrogen ICE Vehicle
Ford Motor Company has introduced H2ICE, a P2000 vehicle with an internal combustion engine that uses hydrogen instead of gasoline. For says the engine's efficiency is improved by 25-30 percent over its gasoline counterpart.
http://media.ford.com/article_display.cfm?article_id=9284

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19. Mechanical Technology Teams with DuPont on Micro DMFCs
Mechanical Technology Inc. and DuPont have signed agreements to form a strategic partnership to accelerate the development and commercialization of direct methanol micro fuel cells for portable electronics.
http://www.mechtech.com/news/Display.cfm?A_ID=2299

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Administration
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Press releases and story ideas may be forwarded to Bernadette Geyer, editor, for consideration at bernie@fuelcells.org.

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(http://www.usfcc.com/)

National Fuel Cell Research Center -- The mission of the NFCRC is to promote and support the genesis of a fuel cell industry by providing technological leadership within a vigorous program of research, development and demonstration. By serving as a locus for academic talent of the highest caliber and a non-profit site for the objective evaluation and improvement of industrial products, NFCRC's goal is to become a focal point for advancing fuel cell technology. By supporting industrial research and development, creating partnerships with State and Federal agencies, including the U.S. Department of Energy (DOE) and California Energy Commission (CEC), and overcoming key technical obstacles to fuel cell utilization, the NFCRC can become an invaluable technological incubator for the fuel cell industry.
(http://www.nfcrc.uci.edu/)

National Energy Technology Laboratory -- The National Energy Technology Laboratory is federally owned and operated. Its mission is *"We Solve National Energy and Environmental Problems."* NETL performs, procures, and partners in technical research, development, and

demonstration to advance technology into the commercial marketplace, thereby benefiting the environment, contributing to U.S. employment, and advancing the position of U.S. industries in the global market.
(http://www.netl.doe.gov)